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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/552,396

10/07/2005

Koji Akiyama

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EXAMINER

HANLEY, BRITT D

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/552,396	Applicant(s) AKIYAMA ET AL.	
	Examiner BRITT D. HANLEY	Art Unit 2889	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Response to Amendment

01. Amendment filed on 03/22/2010 has been entered and noted by Examiner. Claims 1-16 are pending.

Claim Rejections - 35 USC § 103

02. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

03. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

04. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shinji *et al.* (JP11-213891) in view of Applicant cited Oono (JP3-75596) and Kazuya *et al.* (JP07-162180).

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05 Regarding claims 1, 6, 15, and 16, Shinji *et al.* disclose an aging method and device for performing an aging of a plasma display panel (10) using an aging device (1) including an air blowing means (fan, paragraph 23) for cooling a plasma display panel (paragraph 23), the method comprising: cooling the plasma display panel during the aging (paragraph 23). Shinji *et al.* do not explicitly appear to disclose changing at least one of direction or amount of air blown from the air blowing means during the aging process, positioning the air blowing means above a front-face surface of the plasma display panel to direct air to the front-face surface in a direction away from parallel relative to the front-face surface, wherein at least a portion of the air blowing means is disposed within an area defined by the perimeter of the plasma display panel, or wherein a vector normal to the front-face surface of the plasma display panel intersects the air blowing means.

06 However, in the same field of fan cooling, Oono discloses a fan (6) and an airflow guide (2) that changes the direction of the air to cool a circuit board (3). Further, in the same field of fan cooling, Kazuya *et al.* disclose a plurality of fans (55), some of which are above a front-face surface of the circuit boards (15), that rotated around a parallel surface of a circuit board (paragraph 33, Figures 1 and 2) in order to cool the devices uniformly (paragraph 25). Furthermore, as the fans pivot around shaft (31), the air is directed toward a front-face surface of the circuit board in a direction away from parallel, that is the air has an angle of incidence with the front-face surface of the board.

07 At the time the invention was made, it would have been obvious to a person having ordinary skill in the art having the references of Shinji *et al.*, Oono, and Kazuya *et al.* to modify device of Shinji *et al.* to include the airflow guide of Oono in order to better cool the panel so as to prevent cracks from forming in the panel and to include fans capable of blowing air toward the PDP in directions other than parallel to the surface of the PDP in order to uniformly cool the PDP paragraph 25, Kazuya *et al.*).

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08 Further, optimizing the direction of air flow toward the surface of the PDP and positioning the air blowing means in an area defined by the perimeter of the plasma display panel or so that it is intersected by a vector normal to the PDP is a matter of routine optimization and within the skills of one having ordinary skill in the art. One of ordinary skill in the art would position the air blowing means above a front-face surface of the plasma display panel to direct air to the front-face surface in a direction away from parallel relative to the front-face surface in order to uniformly cool the PDP. When air is blown toward the front-face surface of the PDP in a perpendicular direction, air is able to cool all sides of components on the PDP, and the air that cools the panel is at the same temperature (as opposed to air that has been blown parallel and heated by the panel as it travels across the PDP).

09 Examiner also argues that the position of the air blowing means relative to the PDP and the direction of air flow toward the PDP is an engineering design choice that one of ordinary skill in the art would find obvious.

10 Regarding claims 2 and 7, the combination of Shinji *et al.*, Oono, and Kazuya *et al.* disclose the method and device of claims 1 and 6, wherein the air blowing means includes a plurality of air blowing devices (27, paragraph 33, Kazuya *et al.*), and an air blowing amount of at least one of the plurality of air blowing devices is changed (Drawing 2, blown density is controlled, Oono). At the time the invention was made, it would have been obvious to a person having ordinary skill in the art having the references of Shinji *et al.*, Oono, and Kazuya *et al.* to include a plurality of fans and in order to better cool the panel so as to prevent cracks from forming in the panel.

11 Regarding claims 3 and 8, the combination of Shinji *et al.*, Oono, and Kazuya *et al.* disclose the aging method and device of a plasma display panel according to claims 1 and 6, wherein the air blowing means includes a plurality air blowing device (27, Kazuya *et al.*) and an air blowing direction changeable means provided between the plurality of air blowing devices and the plasma display panel (Figure 2, Oono) so that, during the aging (paragraph 23, Shinji *et al.*), the air blowing direction changeable means changes directions of air blown from the plurality of air blowing devices (Figure 2, Oono). The reason to combine is the same as found in claim 1.

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1.2 Regarding claims 4 and 9, the combination of Shinji *et al.*, Oono, and Kazuya *et al.* disclose the aging method and device of a plasma display panel according to claims 1 and 6, wherein the air blowing means includes a plurality of air blowing devices (27, paragraph 33, Kazuya *et al.*) so that, during the aging, at least one of the plurality of air blowing devices is moved (paragraph 24, Kazuya *et al.*). The motivation to combine is the same as in claim 1.

1.3 Regarding claims 5 and 10, the combination of Shinji *et al.*, Oono, and Kazuya *et al.* disclose the aging method and device of a plasma display panel according to claims 1 and 6, wherein the air blowing means includes a plurality of air blowing devices (27, paragraph 33, Kazuya *et al.*) so that, during the aging, at least one of the plurality of air blowing devices changes in a direction (drawings 1 and 2, Kazuya *et al.*). The motivation to combines is the same as found in claim 1.

1.4 Regarding claims 11 and 13, the combination of Shinji *et al.*, Oono, and Kazuya *et al.* make obvious the aging method and aging device of a PDP according to claims 1 and 6, wherein the cooling of the plasma display panel during the aging includes changing the direction of air blown from the air blowing means from a first direction to at least a second direction (paragraph 33, Figures 1 and 2 of Kazuya *et al.*). The fans cool the circuit boards while rotating around the shaft. At the time of the invention, it would have been obvious to one of ordinary skill in the art to change the direction of the air from the air-blowing means in order to uniformly cool the PDP paragraph 25, Kazuya *et al.*)

1.5 Regarding claims 12 and 14, the combination of Shinji *et al.*, Oono, and Kazuya *et al.* make obvious the aging method and aging device of a PDP according to claims 1 and 6, wherein the cooling of the plasma display panel during the aging includes changing the amount of air blown from the air blowing means by at least one additional amount (Drawing 2, blown density is controlled, Oono). At the time the invention was made, it would have been obvious to a person having ordinary skill in the art to change the amount of air blown from the air-blowing means in order to better cool the panel so as to prevent cracks from forming in the panel.

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Response to Arguments

16 Applicant's arguments filed 03/22/2010 have been fully considered but they are not persuasive. Applicant argues that the newly added limitations are not taught or suggest by the prior art. Examiner agrees. However, position the air blowing means "wherein at least a portion of the air blowing means is disposed within an area defined by the perimeter of the plasma display panel", or "wherein a vector normal to the front-face surface of the plasma display panel intersects the air blowing means" is simply an engineering design choice that one of ordinary skill in the art would have found obvious. When ageing a panel, the prior art teaches that fans are suitable to remove heat. The amount of air flow required, the direction of air flow, and the position of the air blowing means is routine optimization.

Conclusion

17 Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

18 A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

19 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Britt Hanley whose telephone number is (571) 270-3042. The examiner can normally be reached on Monday - Thursday, 6:30a-5:00p ET.

20 If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minh-Toan Ton can be reached on (571)272-2303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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21. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Britt Hanley/
Examiner, Art Unit 2889

| /Toan Ton/
Supervisory Patent Examiner, Art Unit 2889